E-Healthcare System in Cloud

Chhotumal M. Ingole, Shivraj S. Patil, Kiran H. Taware, Prof. Bilkis Chandargi

Abstract—**E-Healthcare system in cloud is the application which is based on healthcare system which contains all the information regarding patient's, doctor's and hospital reputation. To access information to know which one is better option to get treatment .To maintains track records of Patient's health condition. To maintain doctor's track records which will help us to choose good doctor this will be able to treat the patient. It will also help while conducting interview we could check doctors track records. Cloud computing is the use of computing resources (software & hardware) that are delivered as a service over a network. The name comes from use of cloud shaped symbol as an abstraction for complex infrastructure.**

Index Terms— **E-Healthcare; Cloud Computing; E-Healthcare and Cloud Computing.**

I. INTRODUCTION

When large scale become available and accessible via thin client and terminal computers, because it is costly to buy mainframe system. It becomes important to find best to get greatest return on investment in mainframe system. Allowing multiple users to shared physical access to computers from multiple terminals as well to share CPU time eliminating activity which become time shadow.

E-Healthcare system in cloud is the application which is based on healthcare system which contains all the information regarding patient's, doctor's and hospital reputation. To access information to know which one is better option to get treatment .To maintains track records of Patient's health condition. To maintain doctor's track records which will help us to choose good doctor this will be able to treat the patient. It will also help while conducting interview we could check doctors track records.

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II. CLOUD CHARACTERISTICS

A. Public Cloud

Built with the same advanced technology that supports Google solutions around the globe, Google Cloud Storage lets you store, access, and protect your data with ease. With Google Cloud Storage, you can store and manage access to any amount of data, whether for an individual or a group. Your business can count on Google's world-class cloud storage system for reliability, almost unlimited scalability, and innovative functionality, including standards-based security features and sophisticated data-analysis tools. The data storage process can be time-consuming and costly. This includes maintaining data servers, storage disks, firewalls, backup copies and disaster recovery provisions. K8 Google Cloud Storage reduces these burdens, allowing you to store, retrieve, share, and analyze your data, day after day, without worrying about maintenance, scaling up or down or hardware and firmware upgrades.
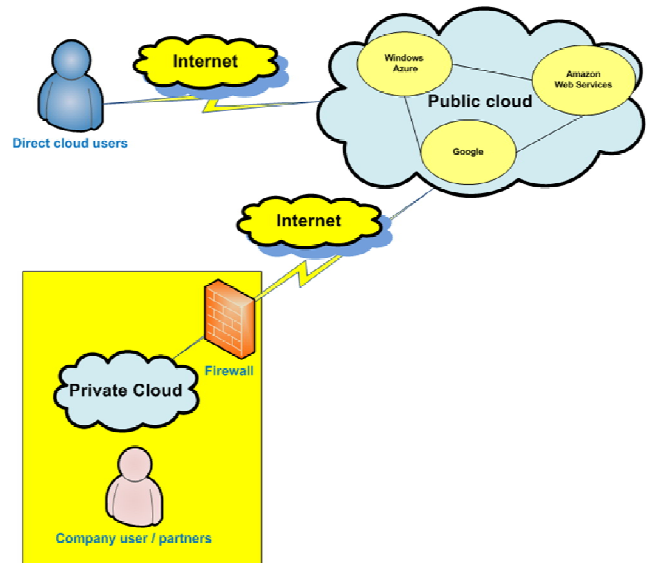

Fig. 1: Public Cloud Architecture

B. Comparison of Public Cloud and Private Cloud

	Public Cloud	Private Cloud
Initial Cost	Typically Zero	Typically High
Running Cost	Unpredictable	Unpredictable
Customization	Impossible	Possible
Privacy	No(Host has access of data)	Yes
Scaling-Up	Easy while within	Laborious but no

	definition limits	limits
Single Sign-On	Impossible	Possible

Table 1: Comparison of Public Cloud and Private Cloud

III. CLOUD SERVICE MODELS

In cloud, everything from storage to computation is provider as service. Depending in the nature of service, it is divided into following services.

1. **IaaS:** (Infrastructure as a Service):

    Infrastructure as a service is to take the servers on rent instead of buying them directly and pay for the use. The computer infrastructure comprising of servers, storage and network is delivered as service rather than buying and owning the infrastructure, client can buy this as a fully outsourced service. Clients pay only for the resources they consume on a utility computing basis. **IaaS** has the ability to provide single server up to entire data centers.

2. **PaaS: (**Platform as a Service):

    Platform as a Service is cloud model, in which a computation platform is provided as a service to end user. **PaaS** is mainly used by developers to deploy their code on public cloud. Once the code is deployed, from computation to storage everything happens in cloud, at provider's end **PaaS** offerings facilitates the deployment of the application without the cost and complexity of buying and managing the underlying hardware and software and provisioning hosting capabilities, providing all of the facilities required to support complete lifecycle of building and delivering web application.

3. **SaaS:** (Software as a Service):

    Software as a service is cloud development model in which software is build centrally by provider and is given for use to end user on demand via a thin client like a web browser. Here instead of buying software, user pays per use. SaaS is model of software development where an application is hosted as service provided to customer across internet where application executed in cloud using the interconnectivity of the internet to propagate data. SaaS has become common delivery model for most business application including accounting, collaboration, CRM (customer relationship management), ERP (Enterprise Resource Planning), invoicing, HRM (Human Resource Management).

IV. BENEFITS OF CLOUD

- Improve Storage.
- Highly Automated.
- Flexibility.
- Mobility.
- Allow us to focus.
- Scalability.
- Remote Access.
- Disaster Relief.
- Easy to Implement.
- Response time.
- Pay per Usage.
- Security and Privacy.

V. PROPOSED WORK

The following things are done in the E-Healthcare Application which is going to be deployed on cloud.

- **Maintain Patient's track Records.**

    In this module we are going to save the details of the patients.

- **Maintain Doctor's track Records.**

    In this module we are going to save the details of the doctors.

- **Maintain Diseases record.**

    In this module we are going to save the details of all the diseases like an encyclopaedia.

- **Maintaining the Hospital track record and their facilities.**

    In this module we are going to save the details of the hospitals and facilities provided by them.

- **Maintaining Case studies of the cured patients.**

    The patients who are cured from the particular diseases, we are going to put the case studies of them and we will upload it on cloud.

- **Providing the recruitment facilities for the fresher doctors.**

    In this module we will provide the recruitment facilities with the help of which the fresher doctors can submit their resumes and search for the opportunities.

- **Assigning the ratings for particular Hospitals according to their facilities.**

    This is very important function provided by the application. In this function the user will provide the ratings to the hospitals with the help of which it will be easy to understand which hospital is providing good facilities.
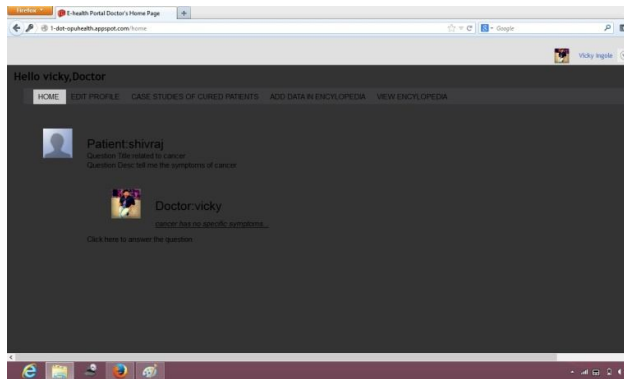
VI. RESULTS & CONCLUSION
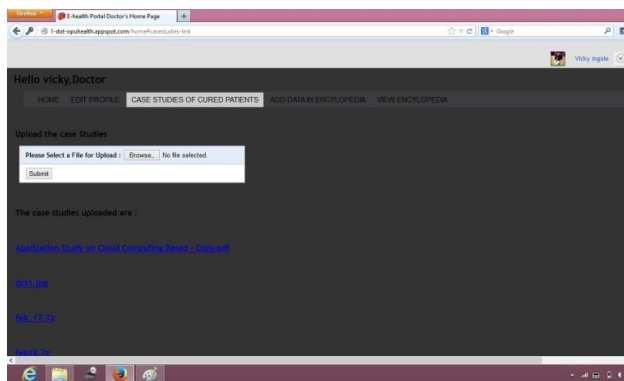

Fig. 2: Home Page of the Doctor

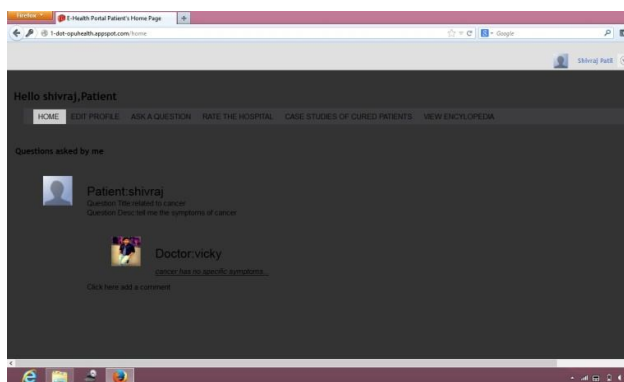*Fig. 3 Case study provided by patients.*

Fig 4. Homepage of the patient

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